

## A STUDY OF PHYSICAL ACTIVITY AND ITS IMPACT ON HEALTH

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### Abstract:

*At least two thirds of the adult population are estimated to be insufficiently physically active for optimal health benefits. All initiatives designed to increase physical activity are therefore urgently needed.*

*The well proven health benefits of regular, moderately intense physical activity (Health Enhancing Physical Activity, such as decreased risk of mortality from cardiovascular diseases, seem to apply to all people, regardless of their age, gender and weight.*

*There is moderate evidence indicating that lower physical activity levels, or lack of high intensity exercise, are associated with greater body weight gain over time. On the other hand, recent findings strongly suggest that the amount of inactivity (i.e. time spending sitting, lying, and standing) in the population does not explain body weight.*

*Current recommendations on physical activity that enhances health suggest that half an hour of moderately intense physical activity on most days of the week yields major health benefits for inactive populations. For effective prevention of overweight and obesity, up to an hour of such daily activity is recommended.*

*Recent guidelines also encourage performing regular strength and flexibility training in addition to the 30 minutes of moderate intense activity, or 20 minutes of vigorous exercise three times per week. Thus, recommendations on health enhancing physical activity now approach the recommended exercise levels for developing and maintaining cardio-respiratory and muscular fitness. The message for health promotion is that "higher intensity is back"*

### INTRODUCTION

Improved levels of physical activity will deliver positive health gains for individuals. However, the evidence base is very limited on what types of exercise are needed, how often, at what intensity for different population groups as an effective weight reduction strategy. Therefore, when population level policy responses are sought for addressing the obesity epidemic, food intake measures are most likely to be more effective than physical activity interventions

Even if healthy food habits and a physically active lifestyle are cornerstones for the most actions have focused on diet. A minority, less than 25 per cent, has addressed Physical Activity and little progress has been measured or reported. It was agreed that there should be an increasing focus on Physical Activity.

### OBJECTIVES

1. To know about physical activity which is also called as bodily activity
2. To study about health enhancing physical activity and exercise
3. To get insight about physical fitness

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### **RESEARCH METHODOLOGY**

Research methodology is the systematic & objective identification, collection, analysis, dissemination & use of information for the purpose of assisting management in decision making relating to the identification & solution of the problem & opportunity.

#### **Type of research:**

Descriptive study is a Statistical study to identify patterns or trends in a situation. Descriptive studies help in generating hypothesis on which further research may be based.

#### **Limitations of study-**

- 1) The study is only related to physical activity and its health and other aspects are not studied.
- 2) The study is limited to secondary source of data.

### **DATA INTERPRETATION**

#### **Physical activity**

Physical activity is defined as “any body movement produced by skeletal muscles that results in a substantial increase over the resting energy expenditure”. It refers to the movement of large muscle groups, as when moving the whole body. Physical activity's main characteristics are intensity, duration and frequency and its main settings are leisure, work, home and transport.

All kinds of physical activities, or lack of these activities, have physiological/medical consequences. Our cells in the body, organs and systems respond immediately to the stimuli caused directly and indirectly by the activity as such and adapt its structure and function accordingly. Lack of these stimuli results in tissue degeneration, lower function and disease vulnerability.

#### **Physical inactivity and sedentary behaviour**

Physical inactivity and sedentary behaviour are less clearly defined. Physical inactivity refers to low levels or the absence of physical activity. It represents the lower end of the activity spectrum. Sedentary behaviour includes a number of occupations that have in common very little energy expenditure. Watching television or videos - that is, time spent in front of a screen or, more generally, time spent sitting daily - is a commonly used indicator of sedentary behaviour.

A sedentary lifestyle may include one or more weekly sessions of intentional exercise, which may be more common among people with more education. Thus, sedentary behaviour does not represent the opposite of physical activity, but corresponds to a complementary dimension of behaviour. The distinction between physical activity and sedentary behaviour has implications for both assessing and preventing obesity and related diseases.

#### **Physical exercise, HEPA and physical fitness**

Physical exercise is defined as “a subset of physical activity that is planned, structured, systematic and purposeful physical activity”<sup>1</sup>, while Health Enhancing Physical Activity (HEPA) is defined as “any form of physical activity that benefits health and functional capacity without any undue harm or risk”.

Physical fitness is “a set of attributes that people have or achieve that relates to their ability to perform physical activity”, or a physiological state. It is clearly distinguished from physical activity and exercise, which are different types of behaviour.

Health-related physical fitness consists of the components of physical fitness that have a relationship with health. These components are favourably or unfavourably affected by physical activity habits and are related to the health status. Health-related fitness has been characterized by an ability to perform daily activities with vigour, and by traits and capacities that are associated with a low risk for the development of chronic diseases and premature death. Health-related fitness components include cardio-respiratory fitness, musculoskeletal fitness, motor fitness, and morphological fitness.

The role of muscular strength in the performance of activities of daily living and exercise, as well as in the prevention of chronic disease, is increasingly being recognized.

Flexibility is another factor of the musculoskeletal component. It is the ability of a specific muscle,

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or a muscle group, to move freely through a full range of motion. It is of importance in a variety of athletic performances but also in the capacity to carry out the activities of daily living, which is important from a public health perspective.

Physical activity patterns over recent weeks or months partially determine cardiorespiratory fitness. Constitutional factors are also determinants: about 40% of the variation in cardio-respiratory fitness has been suggested to be attributable to genetic factors. Nevertheless, regular moderate-to-vigorous physical activity can lead to improvements in cardio-respiratory fitness at any age.

## PHYSICAL ACTIVITY AND HEALTH

The seminal studies by Dr Jeremy Morris in London, in the 1950s on bus-conductors and postal workers were among the first to show a link between habitual physical activity and coronary heart diseases. Research on health and the functional effects of physical activity has since then progressed.

The relationship between physical activity and health is complex. On average, and in most people, regular physical activity at a certain dose will increase health-related fitness. Such improvements in fitness are likely to have favourable effects on overall health.

A large amount of data shows that some health benefits are derived from being physically active even though there may be little or no associated gain in fitness.

Cardio-respiratory fitness has been established as one of the most important independent predictors of all-cause mortality and, in particular, of cardiovascular death, irrespective of body weight. Cardio-respiratory fitness provides strong and independent prognostic information about the overall risk of illness and death in both men and women across a broad spectrum of ages, irrespective of body weight. This applies for apparently healthy individuals, and for those with diabetes mellitus, hypertension, metabolic syndrome and several types of cancer.

A large body of evidence documents the effects of regular physical activity on health, which include decreases in mortality from all causes, cardiovascular mortality and morbidity (including coronary heart disease), the risks for colon and breast cancer and type 2 diabetes. This evidence-based knowledge has led to public health recommendations on physical fitness.

## SUGGESTIONS

“Do moderate physical activity daily, in combination with more intense exercise two to three times per week”.

Together with the advice on improving food habits.

“Take every opportunity you have to increase lifestyle activities, such as walking, cycling, taking the stairs etc”.

30 minutes of daily exercise must be done which will promote health

The 30 minutes can be accumulated in several bouts of at least 10-minutes duration.

On top of these activities, ten strength-training exercises, eight to twelve repetitions of each exercise twice a week, is recommended. References

Bouchard C, Shepard R. Physical activity, fitness and health: the model and key concepts. In: Bouchard C, Shepard R, eds. *Physical activity, fitness and health*. Champaign, IL, Human Kinetics Publishers, 1994

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Ruiz JR, et al. Association between muscular strength and mortality in men. *BMJ* 2008; 337:a439.

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## ABBREVIATIONS

HEPA : Health Enhancing Physical Activity.

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<sup>1</sup>Bouchard C, Shepard R. *Physical activity, fitness and health: the model and key concepts*. In: Bouchard C, Shepard R, eds. *Physical activity, fitness and health*. Champaign, IL, Human Kinetics Publishers, 1994

<sup>2</sup>Ruiz JR, et al. Association between muscular strength and mortality in men. *BMJ* 2008; 337:a439.

<sup>3</sup>Morris JN, Heady JA, Raffle PAB, et al. Coronary heart disease and physical activity of work. *Lancet* 1953; 265 (6795): 1053-1057.

<sup>4</sup>Pedersen BK, Saltin B. Evidence for prescribing exercise as therapy in chronic disease. *Scandinavian Journal of Medicine & Science in Sports*, 2006, 16(Suppl. 1):3–63.